



# **Extended DRM requirements for content distribution**

IRC channel: #eDRM

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- ◆ For the next generation IPTV and web-based signage service, it is expected to use HTML5 browser as a service platform.
- ◆ There are discussions such as EME (Encrypted Media Extensions) in W3C HTML WG, but some DRM issues still remain.
- ◆ In this session, we want to clarify the DRM issue by
  - Introducing the current service examples
  - Discussing requirements for the DRM with the business situation

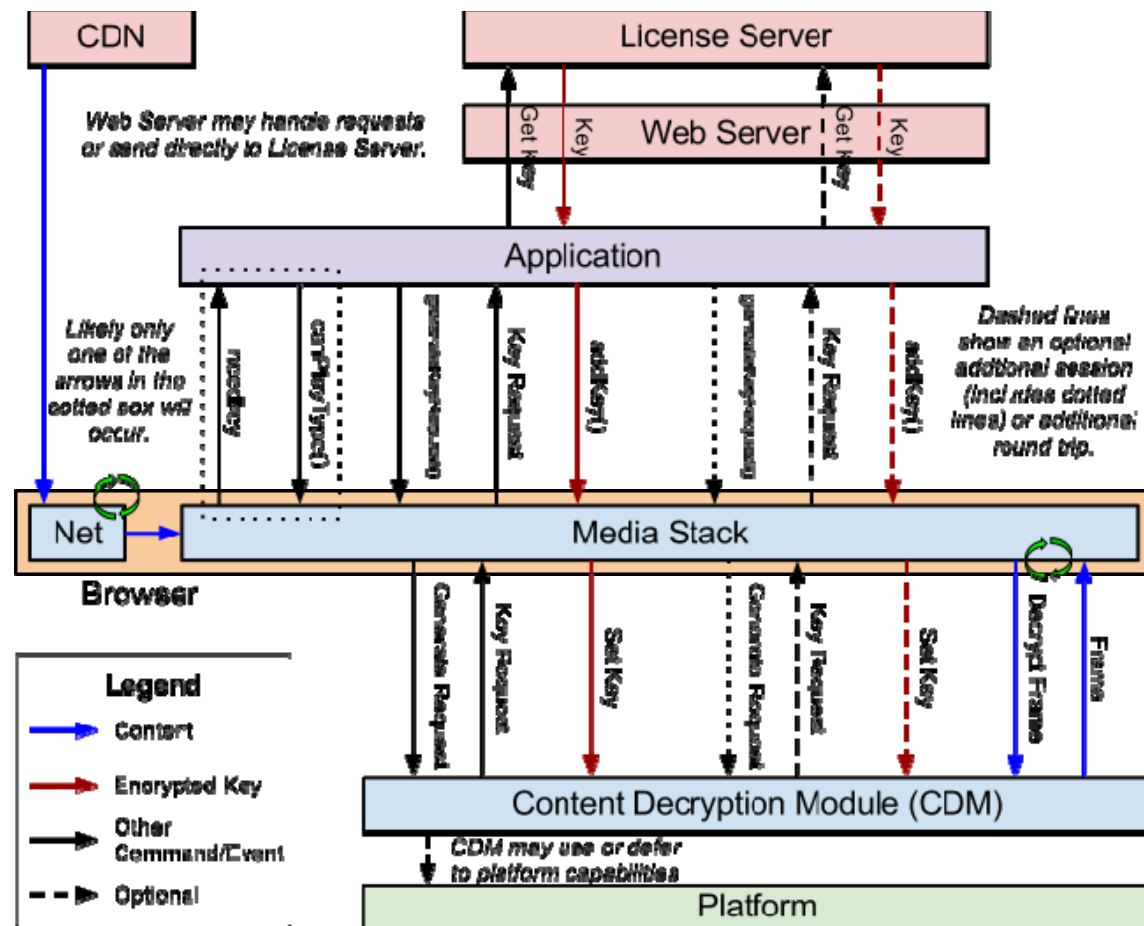
## ◆ Content protection

- Content which has commercial value must be protected from the illegal use.

## ◆ Copyright protection

- Content copy must be respected the permission of the copyright holder.

## ◆ Encrypted Media Extensions (EME)



## ◆ Copyright Protection

- How to protect the **content package** and how to control copyrights of such content?
- How to manage the copy control for the **multiple screen services** (TV service with Tablet, digital signage with smart-phone) ?

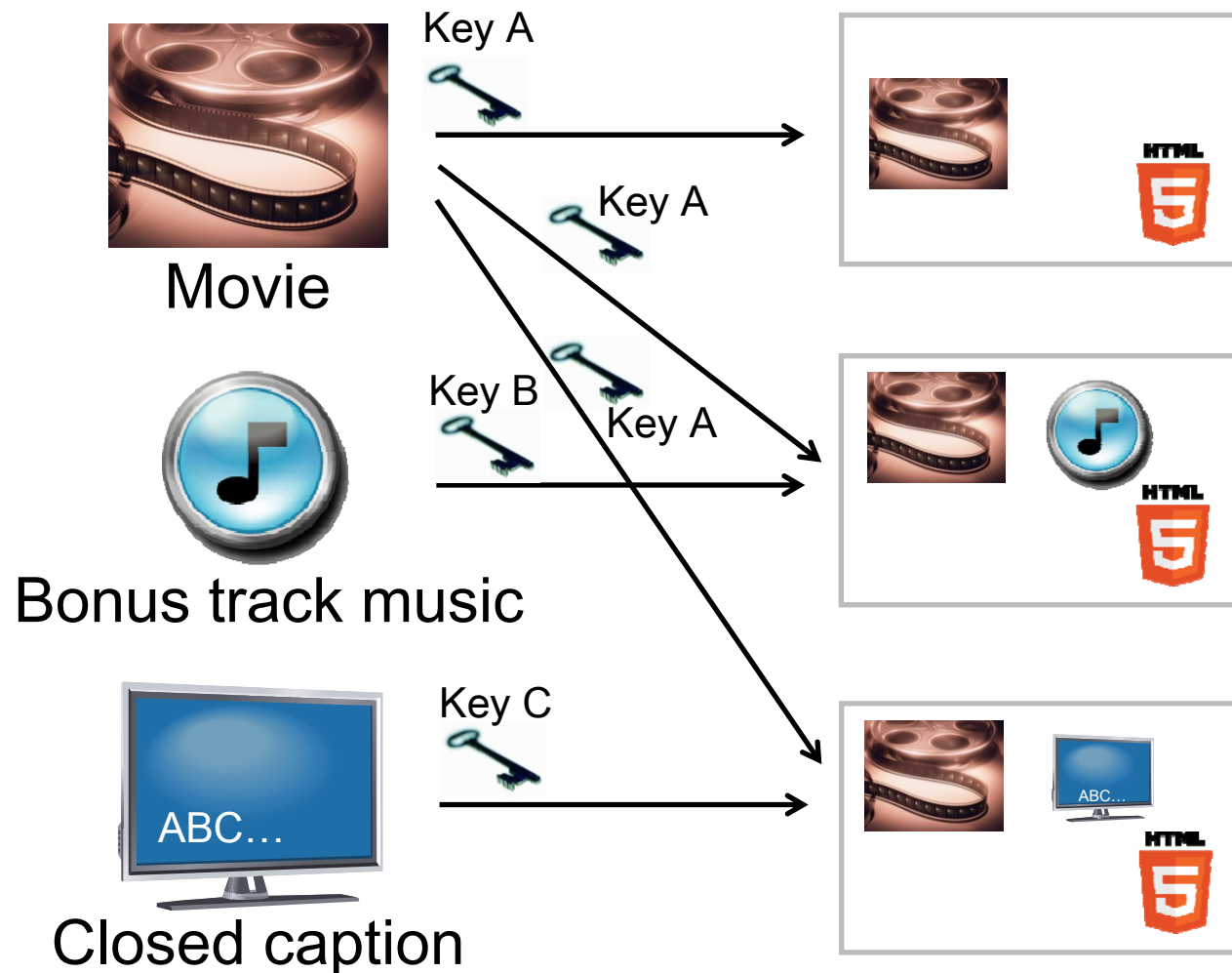
## ◆ Content Protection

- Does the secure device such as **HDMI dongle** simplify the security issue?

# Use Cases

# Use case #1: Multi-keys for package

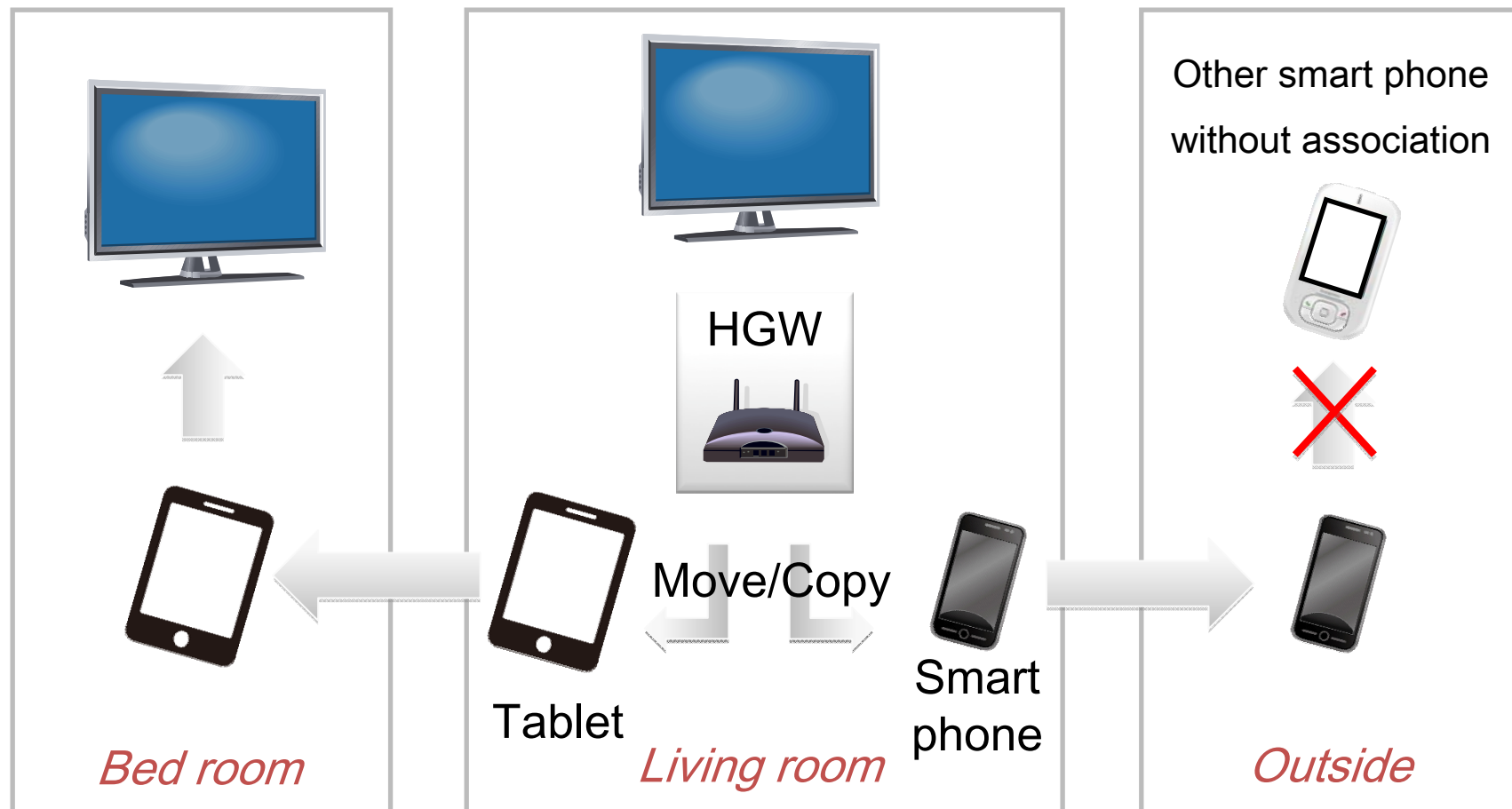
- ◆ Multi-keys are needed for copy control of a HTML-based multi content package.



## Use case #2: Multi-Screen

### ◆ Private to private (Home use case)

Movable/copyable content from TV/STB to tablet/smart phone

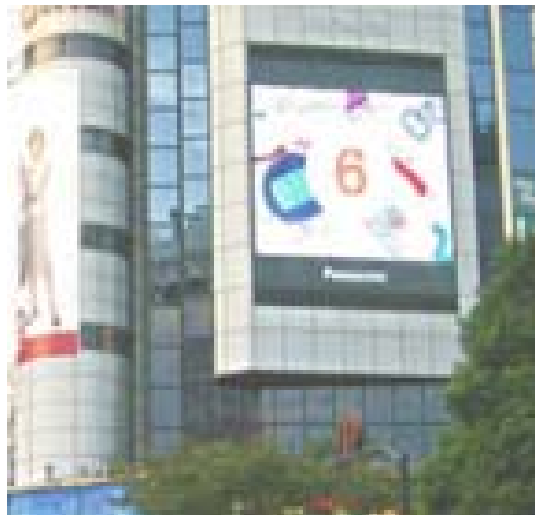




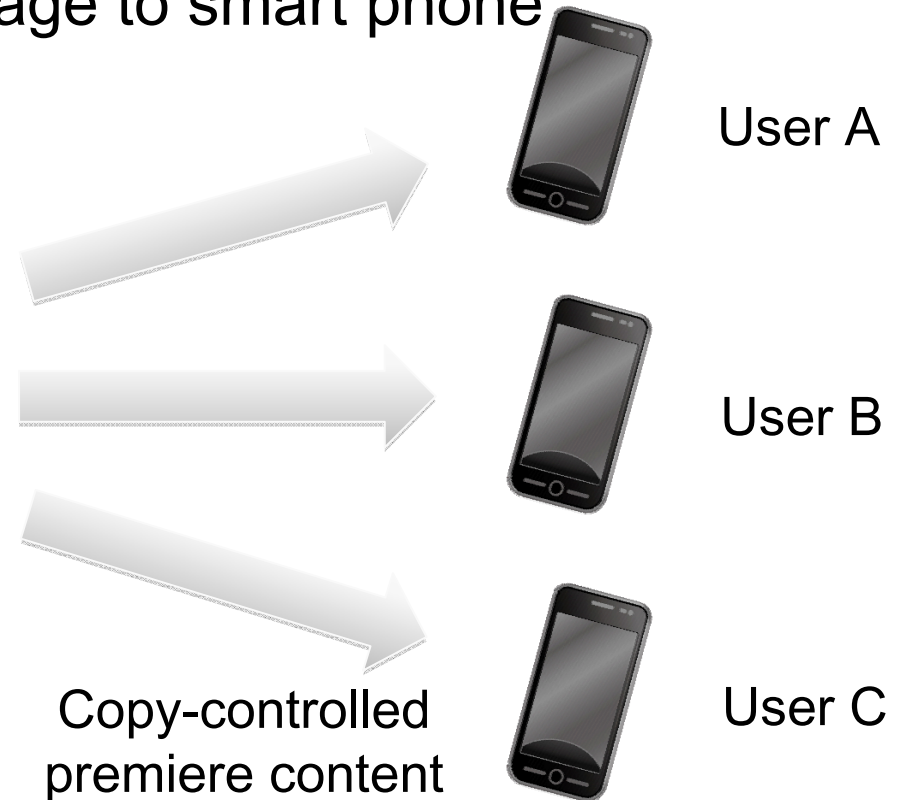
## Use case #2: Multi-Screen

### ◆ Public to private (Signage use case)

Premiere content from Signage to smart phone



Public digital  
signage

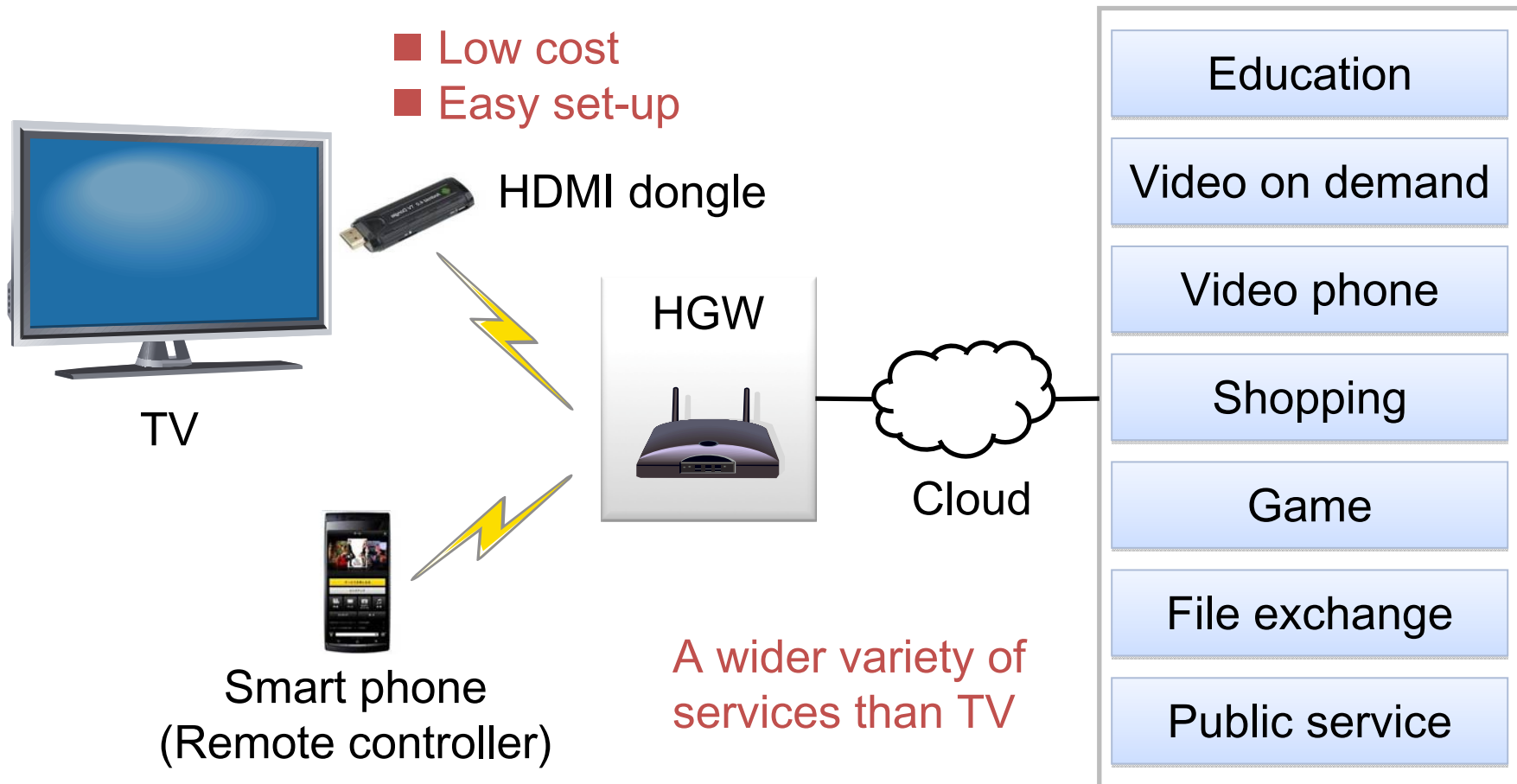


e.g.

- A special picture of famous actor/actress
- A special song by famous musician

## Use case #3: Dongle as a service portal

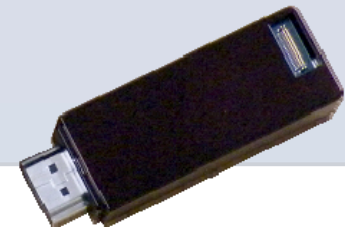
- ◆ A dongle can be a service portal with easy set-up.
- ◆ The combination of a dongle and a HGW brings a variety of services to home.



## Use case #3: Dongle as a small STB

### Basic functions

- Android-based set top box of USB stick size
- GPU and Wi-Fi based on SoC (System on a chip)
- HDMI and micro USB interface
- USB based power supply (500mA)



### What it can do

- Playing a full HD H.264 video(local and streaming)
- Playing a video while decrypting
- Graphic rendering using OpenGL
- Light software processing (Equal to 500 MHz CPU)
- Collaboration with other devices like a smart phone

e.g. Premiere content on NTT DoCoMo Disney cell phone

## Multi-keys

- ◆ How to prohibit to cache decrypted sub-content?
- ◆ How to protect a copyright in case of output to external devices?
- ◆ How to control functions like fast-forward in playing streaming content?

## Multi-screen

- ◆ How to markup HTML for copyright protection on multi device association?

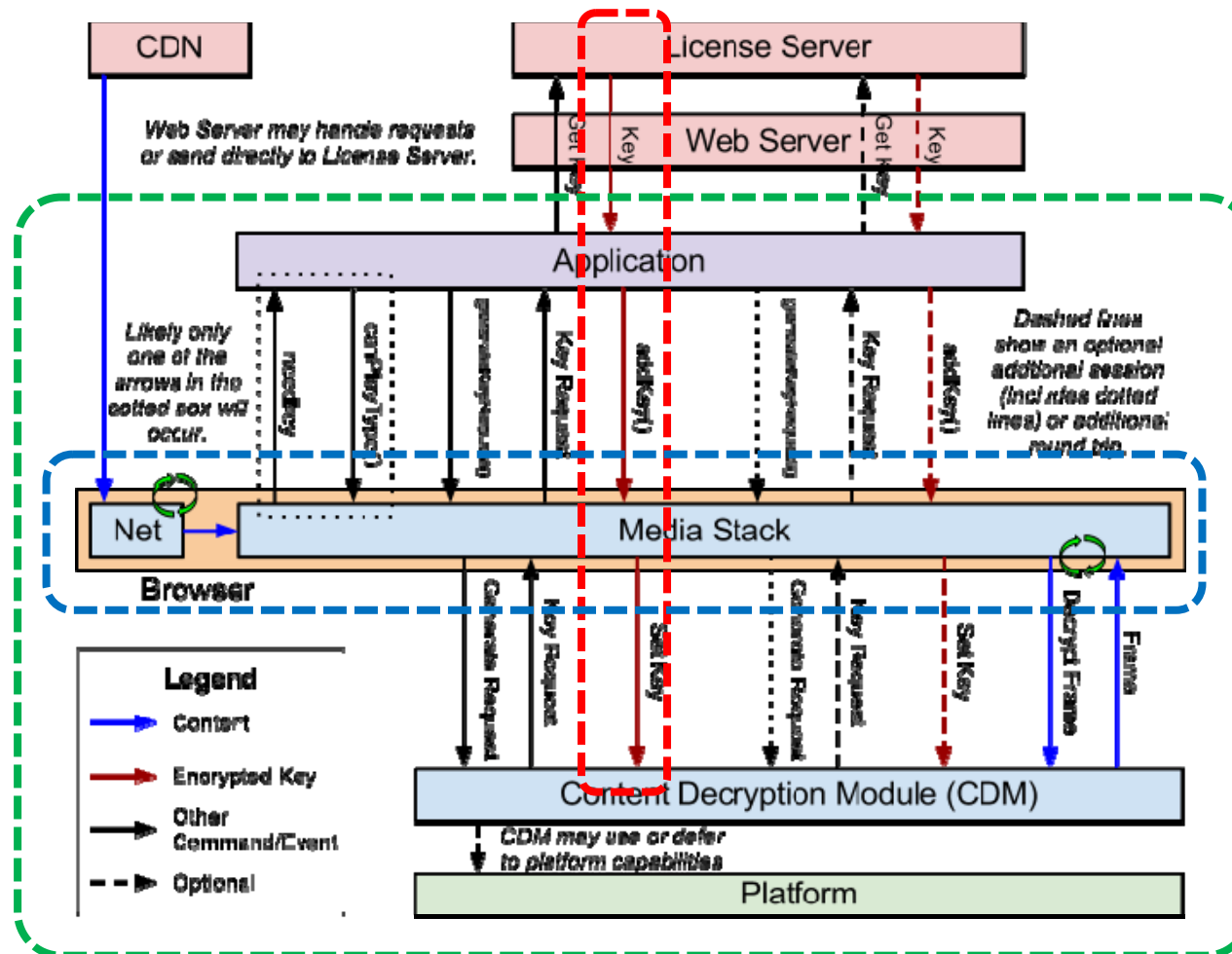
## Dongle (as a secure device)

- ◆ How to define interface with a dongle?
- ◆ How to control content protection before/after plugging-in/-out a dongle?

## Multi-keys

Dongle

Multi-screen



# Question?